

**Remarks**

Applicant notes that an informality exists in the drawings as submitted with the Preliminary Amendment mailed April 24, 2001, and applicant submits herewith a substitute drawing page containing Figs. 4a and 4b. Specifically, Figure 4b of the official drawings contains the following informalities. First, throughout the drawings and the specification, the player's location on the golf course is indicated with an "x" and referenced with the symbol "31". A close reading of the specification, for example on page 4 line 25; page 5 line 4; and page 12 line 16, will reveal that the reference symbol "31" is used throughout to refer to a player's position on the course. Figure 4b contains the incorrect reference symbol "30". In order to standardize Figure 4b with the remaining submitted drawings and the specification, the incorrect reference symbol "30" in Figure 4b has been amended to reflect the correct reference symbol of "31". Please note that the paragraph beginning on page 12, line 31 and the paragraph beginning on page 13, line 7, have been amended to reflect the correct reference symbol "31".

With further regard to the drawings, Figure 4b had contained an incorrect graphic in the top right hand corner which states "0 YRDS TO GREEN". As is specified in the paragraph beginning on page 13, line 7, the graphic indicates a distance display and should read "2R BREAK IN FT". A close reading of the last sentence of this paragraph reveals "In the particular example shown in Figure 4b the handheld unit has estimated from the green contour and position data that the putt will break 2 feet to the right." Further, please note that this sentence has not been amended in the specification and proper support for the informality exists in the specification as submitted. Accordingly, the graphic in the top right hand corner of Figure 4b has been amended to correctly read "2R BREAK IN FT".

With further regard to the drawings, said graphic in the top right hand corner of Figure 4b also incorrectly missed reference symbol "19". Please note that in the specification, the sentence in the paragraph on page 13, on line 19, which states "The distance display 19 shows an estimate of the distance the putt will break left or right from a straight line between the player's position and the cup." This sentence has not been amended and therefore proper support for the informality exists in the specification as submitted. Accordingly, Figure 4b has been amended to correctly indicate the reference symbol "19".

The substitute drawing submitted herewith does not add new matter and applicant respectfully requests that the substitute drawings be entered by the Examiner.

The Examiner objected to the specification under 37 CFR §1.72(b). Specifically, the abstract of the disclosure exceeded the required 150 words. Applicant has amended the disclosure to comply with the Examiner's requirement. No new matter has been added. Accordingly, applicant respectfully requests that the abstract of the disclosure be reconsidered by the Examiner.

The Examiner has rejected claims 1-31 and 45 under 35 USC §112 for various informalities. Applicant notes that the claims have been amended to correct these informalities. No new matter has been added. Accordingly, applicant respectfully requests that the claims be reconsidered by the Examiner and placed in condition for allowance.

The Examiner has rejected claims 1-49, 81-84 under §102 or §103 over Reeves and Germain and Lobsenz. Applicant respectfully traverses these rejections as explained further below, and requests reconsideration of the claims.

### **Claims 1-31**

Independent claim 1 requires a processor to “dynamically generate a graphical view of a selected portion of said golf course based on said user's current location” and a graphic display to “display said graphical view of said selected portion of said golf course”. Thus, claim 1 explicitly requires a graphical display for displaying a graphical view of a selected portion of a golf course (based on a user's current location) including one or more golf course features. In contrast, the primary reference relied on by the Examiner, Reeves, utilizes an alphanumeric display for displaying alphanumeric information only. Thus, the Reeves device fails to teach or suggest generating a graphical view depending on the user's current location. Further, even assuming *arguendo* that the other cited references, Germain and Lobsenz, can be combined with Reeves, the combination does not teach or suggest the claimed invention. Like Reeves, Lobsenz teaches only the use of an alphanumeric display, apparently only showing textual information, not a graphical view of a selected portion of the golf course. At most, Germain teaches an interactive golf game system in which static recording cards or a graphical display are used to record golf round data that can be uploaded to a computer at the end of play. The golfer indicates the location of each stroke, for example, by marking the pre-printed cards. Once the round is complete, the golfer can only get an analysis of the round by using a separate unit to scan his pre-printed cards or by uploading the data to a computer. Thus, while Germain teaches a graphic display to display a graphical representation of a golf course on which to record information, the views displayed in Germain are static and pre-stored. Germain does not teach or

suggest dynamically generating a graphical view based on the user's current location as claimed. Accordingly, it is respectfully submitted that independent claim 1, and its dependent claims 2-31, define patentable subject matter over the cited art and their allowance is requested.

Claim 8 includes the additional limitation that the display show the intended direction of flight of the ball. None of the prior art references cited by the Examiner teach or suggest this "line of flight" limitation. Accordingly, it is believed that claim 8 is allowable for this additional reason.

Claim 11 includes the additional limitation that the "graphic display is adapted to show a user's position on a green, the cup in said green, and a representation of forces on a ball on said green along a line between said user position and said cup". Thus, claim 11 shows not only the user's position on the green, but the location of the cup on the green as well as the forces that a user could expect to act on a golf ball while putting from the user's position. This is all displayed to the user graphically. As stated above, none of the references cited by the examiner, either alone or in combination, teach or suggest the use of a graphical display to show a user's position anywhere on a course, including the green. Obviously then, none of the cited references teach or suggest the use of a graphical display in order to graphically represent the forces that will act on a ball during a putt. Clearly, the displays claimed by Reeves and Lobsenz, which claim the use of textual displays using LEDs or LCDs, are not capable of this functionality. In addition, the graphical views in Germain show neither the user's position on the green in relation to the cup nor a graphical representation of the forces that would act on a ball during a given putt attempt. In light the above, applicant submits that claim 11 defines

patentable subject matter over the cited art and respectfully requests that claim 11 be placed in a condition for allowance, even if the rejection to claim 1 is maintained.

With regard to dependent claim 28, this claim includes the limitation that the “graphic display is adapted to indicate the region on the course within which the ball will probably rest following the user’s next stroke taking into consideration the club selected by the user and a predetermined skill level”. This demonstrates that applicant’s invention not only has the ability to graphically display a selected portion of the course and the user’s position on the course, but the ability to predict and graphically show, prior to a given shot, a probable spot on the course where the ball will land, given a club and the pre-determined skill level of the user. None of the references cited by the Examiner has this capability. Reeves, and Lobsenz, merely show textual information based on past events, such as the last shot taken, but they do not predict the results of the next shot nor do they display information graphically. Similarly, the static images taught by Germain do not contain predictions of any kind much less those based on a pre-determined skill level or club selection. Rather, they are merely a static representation of a given hole prior to tee-off. Accordingly, it is believed that claim 28 defines patentable subject matter over the cited art and therefore it is respectfully requested that claim 28 be placed in condition for allowance, even if the rejection to claim 1 is maintained.

With further regard to claim 31, this claim includes the limitation that the “graphic display is adapted to show a user information on the break of a putt from a straight line extending from said user’s position on a green to the cup in said green”. For logic similar to that expressed above with respect to claim 11, applicant submits that this claim

defines patentable subject matter over the cited art and its allowance is respectfully requested, even if the rejection to claim 1 is maintained.

**Claims 32-51, 81-84**

Independent claim 32 is directed to a cellular radiotelephone with an integrated golf round data storage device. Claim 32 requires both a cellular radio transceiver and "data storage operatively connected to said cellular radio transceiver for storing data relating to the location of at least one golf course feature, wherein said data relating to the location of said at least one golf course feature is received via said cellular network from said cellular radio transceiver." Thus, claim 32 explicitly requires the claimed cellular radiotelephone to communicate with a cellular network, via the cellular radio transceiver, for the purposes of downloading data relating to golf course features. For example water hazards, greens boundaries and pin placements on the green as well as other obstructions such as bunkers, out-of-bounds markers and fairway boundaries. In contrast, the primary reference cited by the Examiner, Reeves, teaches a docking station physically connected to a central data station. Prior to the start of play, a hand held unit is physically mated with the central data station via the docking station for the purposes of initializing a hand held unit with course data. Obviously, applicant's claim of applying a cellular radio transceiver in a cellular radiotelephone for the purposes of data download via a cellular network is vastly different from the cited reference which explicitly teaches that a physical connection must be made. Further, neither Germain nor Lobsenz teach or suggest downloading the relevant data via a cellular network. Lobsenz explicitly teaches a golf scoring system, which does not even make use of a cellular radio telephone, much less with a cellular transceiver in order to load data over a cellular network. Germain teaches an interactive golf game information system in which statistics are stored and analyzed. Data is collected during the play and the results are

uploaded into a CPU where the results are analyzed and output to a display or a printer. There is no use of a cellular transceiver, cellular radiotelephone or a cellular network in either patent that downloads relevant data. While Germain teaches that a signal transmitting device used to collect golf round data may alternatively function as a cellular phone, there is nothing in Germain suggesting interoperation between the signal transmitting device and the cellular telephone. In particular, there is no suggestion in Germain to use a cellular transceiver to download golf course data. Accordingly, applicant submits that independent claim 32, and its dependent claims 33-51 and 83-85, define patentable subject matter over the cited art and respectfully requests that they be placed in condition for allowance.

Lastly, applicant respectfully submits new dependent claims 85-92 for consideration. Claim 85 depends from claim 32 and introduces the further limitation the claimed cellular radiotelephone "wherein a user's data is uploaded via said cellular network and said cellular radio transceiver." This limitation clearly displays applicant's novel approach to the uploading of user performance data for later analysis, something not shown in the prior art cited by the Examiner. With respect to the above argument, applicant respectfully submits that Claim 85 defines patentable subject matter and requests that Claim 85 be placed in condition for allowance.

Claim 87 depends from claim 1 and adds the additional requirement that the graphical view include the user's current location. The pre-printed cards or graphical display in Germain do not illustrate the user's current location. Accordingly, it is believed that claim 87 is patentable.

Claims 88-92 depend either directly or indirectly from claim 32 and add additional limitations concerning the nature of the location dependent course information shown on the display.

Attached hereto is a marked-up version of the changes made to the specification and claims by the current amendment.

Respectfully submitted,  
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**VERSION WITH MARKINGS TO SHOW CHANGES MADE**

**In the abstract:**

**The abstract of the disclosure is amended as follows:**

[A portable handheld device for collecting and displaying golf round data. The data collected for each stroke includes the location, time, and club used and the resulting ball position achieved. Locations on the golf course are determined by radiolocation. Golf course and player past performance data are loaded into the handheld unit either by direct connection to a data source or by wireless data transfer through a cellular telephone. After a round is played the round data collected is transferred to permanent storage by a direct or wireless data link. The wireless data link can be a cellular telephone connection. The data files can be accessible via the Internet. Before each drive or approach shot player performance and course distance information are used to help the player choose the correct club. When putting the player receives information about the probable break of the putt ball from a straight line to the cup. Information that a stroke has been taken and which club was used can be entered manually by the player or sensed automatically from telemetry equipped golf clubs. The telemetry can be either battery powered or powered by club motion. Golf round data collected is used to produce commemorative documents and suggestions to improve the player's skill. Commemorative documents include a course plot showing the locations of all strokes taken during a round of play. Any selected stroke in a round can also be replayed on the display of the handheld unit.]

A portable handheld device for collecting and displaying golf round data. The data collected for each stroke includes the location, time and club used and the

resulting ball position achieved. Locations on the golf course are determined by radiolocation. Data transfers between the handheld device and external storage are by direct connection or cellular telephone or some other wireless link. Before each drive or approach shot, player performance and course distance information are used to help the player choose the correct club. Putt break prediction is provided before putting strokes. Information that a stroke has been taken and which club was used can be entered manually by the player or sensed automatically from telemetry equipped golf clubs. Golf round data collected is used to produce play souvenirs, records and analyses. Any selected stroke in a round can also be replayed on a graphical display of the handheld device.

**In the specification:**

**The paragraph beginning on page 12, line 31 is amended as follows:**

After each stroke on a hole the player moves to the ball's new location and the graphical display 11 changes as shown in Figure 4a. The display shows the portion of the golf course between the player's position [30] 31 and the green 25. In the particular example shown in Figure 4a the player is in an adjacent fairway while playing hole number 3 shown on hole display 17, has 9 minutes remaining to complete the hole as shown on the time display 18, is 95 yards from the middle of the green as shown on the distance display 19, has chosen to use a nine iron as shown by the next club display 20, has a 50% probability that the ball will land within contour 33, and has previously used one stroke on the hole as shown on the stroke display 21.

**The paragraph beginning on page 13, line 7 is amended as follows:**

When the player reaches the green the display changes as shown in Figure 4b. Shown on the display are the edge of the green: **24**, the player's location **[30] 31**, the cup **67**, and a straight line **68**, between the player and the cup. The contour of the green and the grain of the grass impose forces on the ball tending to slow or speed it and tending to make it break from the ideal straight line **68**. Those forces pushing on the ball are displayed as lines **70** toward successive possible ball positions along line **68**. The length of each line toward a ball position is proportional to the magnitude of the force at that position on the green. The direction of lines **70** indicate the direction of the force pressing on the ball at each position. In the particular example in Figure 4b the ball traveling along line **68** would experience a small accelerating force with a break toward the left at all places except at and immediately before and after position **69**. At position **69** the ball experiences a retarding force and a significant break to the right due to a transition up a short incline to a higher level near the cup. The distance display **19** shows an estimate of the distance the putt will break left or right from a straight line between the player's position and the cup. In the particular example shown in Figure 4b the handheld unit has estimated from the green contour and position data that the putt will break 2 feet to the right.

**In the claims:**

**The following claims 1-2, 4-7, 9, 16, 20-21, 24-26, 28-29, 32, 34, 41-42 and 46 are amended as follows:**

1. (Amended) A portable golf round data system comprising:
  - (a) a radiolocation receiver to receive at least one external locating signal from which [the] a user's current location on a golf course can be determined;
  - (b) data storage in [said] a data collection unit for storing course data relating to [the] locations of one or more golf course features;

- (c) at least one microprocessor in said data collection unit operatively connected to [the] said radiolocation receiver and to [the] said data storage, [the] said microprocessor programmed to:
- 1) determine [the] said user's current location on [the] said golf course from [the] said external locating signal; and
  - 2) dynamically generate a graphical view of a selected[generate graphical display data representing a] portion of [the] said golf course [selected] based on [the] said user's current location; and
- (d) a graphic display to display [a graphical representation of the] said graphical view of said selected portion of [the] said golf course, [the] said graphical view[display representation] including [the user's current location] at least one of said golf course features.

2. (Amended) The [portable golf round data] system of Claim 1 wherein said course data is transferred to [the] said [portable] data collection unit via a wireless communication link.
4. (Amended) The [portable golf round data] system of Claim 1 wherein said course data is transferred to said [portable] data collection unit by a connection to a data processor external to said [portable] data collection unit.
5. (Amended) The [portable golf round data] system of Claim 1 wherein said course data is transferred to said [portable] data collection unit from a data file accessible via the Internet.

6. (Amended) The [portable golf round data] system of Claim 1 wherein said course data is transferred to said [portable] data collection unit by installing removable data memory media to said [portable] data collection unit.
7. (Twice Amended) The [portable golf round data] system of Claim 1 wherein said selected portion includes [the] at least a portion of the green of the hole being played and the part of [the] said golf course between the user's present position and that green.
9. (Amended) The [portable golf round data] system of Claim 1 wherein said [portable unit includes a] data storage [containing] further contains data relating to a predetermined skill level.
16. (Twice Amended) The [portable golf round data] system of Claim 14 wherein said graphic display is adapted to show the number of strokes [a] said user has used on the current hole being played.
20. (Amended) The [portable golf round data] system of Claim 14 wherein [said stroke register includes] said microprocessor is further adapted for voice recognition of at least one selected word.
21. (Amended) The [portable golf round data] system of Claim 14 wherein [said stroke register includes] said microprocessor is further adapted to receive and recognize telemetry signals emitted by telemetry equipped golf clubs.

25. (Twice Amended) The [portable golf round data] system of Claim 15 wherein said location data is transferred from said [portable] data collection unit to a data processor external to said [portable] data collection unit.
26. (Twice Amended) The [portable golf round data] system of Claim 15 wherein said location data is transferred from said [portable] data collection unit to a data file accessible via the Internet.
27. (Twice Amended) The [portable golf round data] system of Claim 15 wherein said location data is transferred from the said [portable] data collection unit via a wireless communication link.
28. (Twice Amended) The [portable golf round data] system of Claim 9 wherein said graphic display is adapted to indicate the region on the course within which the ball will probably rest following the user's next stroke taking into consideration [the] a club selected by [the] a user and [a] said predetermined skill level.
29. (Amended) The [portable golf round data] system of Claim 24 wherein said data processor [further] includes means for generating a golf course plot with the location of all recorded strokes.
32. (Twice Amended) A cellular radiotelephone comprising:
- (a) a cellular radio transceiver to communicate with a cellular network;

- (b) a radiolocation receiver for receiving at least one external locating signal from which [the] a user's current location on a golf course can be determined;
- (c) data storage operatively connected to said cellular radio transceiver for storing data relating to the location of at least one golf course feature[s], wherein said data relating to the location of said at least one golf course feature is received via said cellular network from said cellular radio transceiver;
- (d) [at least one data processor acting upon data from the radiolocation receiver and the data storage for determining a player's current location on said course from said external locating signal and for calculating distances between said current location and at least one of said golf course features retained in said data storage]a processor to perform calculations using said user's current location and the location of at least one golf course feature to generate location dependent course information; and
- (e) [a display on said cellular radiotelephone connected to said processor and operative to display information about the distance between said current location and at least one selected golf course feature]a display to display said location dependent course information.

34. (Twice Amended) The cellular radiotelephone of Claim 32 wherein said [portable unit includes a] data storage further [containing] contains data relating to [the] said user's past performance [skill level].

41. (Twice Amended) The cellular radiotelephone of Claim 37 wherein said  
[stroke register includes a microprocessor] data processor is further adapted  
for voice recognition of at least one selected word.
42. (Twice Amended) The cellular radiotelephone of Claim 37 wherein said  
[stroke register includes a microprocessor] data processor is further adapted  
to receive and recognize telemetry signals emitted by telemetry equipped golf  
clubs.
45. (Twice Amended) The cellular radiotelephone of Claim 38 wherein said  
stroke data is transferred from the said cellular radiotelephone to a remote  
computer via a cellular telephone data channel.
46. (Twice Amended) The cellular radiotelephone of Claim 38 wherein said  
stroke data is transferred from said cellular radiotelephone [unit] to a data  
processor external to said cellular radiotelephone.

**The following claims 85-90 are added as follows:**

85. The cellular radiotelephone of Claim 32 wherein a user's data is uploaded via  
said cellular network and said cellular radio transceiver.
86. The system of Claim 1 wherein said view includes a plurality of said golf  
course features of said golf course.



87. The golf round data system of claim 1 wherein said graphical view includes an indication of the user's current location.
88. The cellular radiotelephone of claim 32 wherein the location dependent course information comprises the distance from the user's current location to the green.
89. The cellular radiotelephone of claim 32 wherein the location dependent course information comprises a graphic representation of a selected portion of the current hole being played.
90. The cellular radiotelephone of claim 89 wherein the graphic representation includes a probable landing zone for a golf ball on the next stroke taken by the user.
91. The cellular radiotelephone of claim 89 wherein the graphic representation includes at least a portion of the green.
92. The cellular radiotelephone of claim 91 wherein the graphic representation includes a representation of the forces acting on a golf ball.